
City Manager Approval

Date

1.0 PURPOSE

1.1 BACKGROUND

The Fall Protection Program establishes methods for evaluating jobs that require working at heights for fall protection as required by California Code of Regulations, Title 8, sections 1669, 1670, and 1671, as well as other equipment specific regulations (e.g., ladders, scaffolds, aerial lifts, etc.).

1.2 SCOPE

This policy applies to all departments that have personnel who are exposed to falls from heights or falls to grade. This Fall Protection Program shall apply to all City departments and offices directly responsible to the City Manager. It is also requested that elective offices and other independent offices and departments comply with the Fall Protection Program in the interest of administrative uniformity.

1.3 POLICY

The City of Long Beach is committed to providing a safe working environment for its employees and to govern the use of fall protection procedures and equipment. Employees exposed to fall hazards of six (6) feet or more above grade or employees working at elevated locations more than four (4) feet above the ground on poles, towers, or similar structures must be protected by a guardrail, personal fall protection, or safety net system except where specified in the Federal and Cal/OSHA regulations. Guardrails are required on ramps and working levels more than thirty (30) inches above the floor.

2.0 DEFINITIONS

2.1 Anchorage: Points of attachment for fall protection equipment capable of supporting 5,000 pounds per person. Items such as sturdy structural components, I-beams, and large diameter pipes provide suitable points of attachment. Davit arms and tripods provide acceptable anchorages when used in accordance with manufacturer's instructions.

2.2 Anchorage Connectors: Specifically designed fasteners to attach lanyards and retractable lifelines to points of approved anchorage. These include carabiners, eyebolts, tie-off adapters, shackles, trolley connectors, and brackets.

2.3 Body Harness: Straps secured about the employee in a manner that will distribute the fall-arrest forces over the thighs, pelvis, waist, chest, and shoulders with means for attaching it to other components of a person fall-arrest system.

2.4 Competent Person: An individual capable of identifying existing and foreseeable hazards applicable to personal fall arrest/restraint systems or any component thereof, and who has the responsibility/authorization to take immediate corrective actions to eliminate them.

- 2.5 Fall Prevention: Equipment and procedures to prevent falls from heights, including mobile personnel platforms such as boom lifts, crane suspended platforms, and forklift elevated platforms. Equipment includes body harness with lanyards.
- 2.6 Fall Protection: Use of equipment and procedures to avoid injury after a fall has occurred. This is required whenever work at heights could result in a fall. Equipment includes shock absorbing lanyards or retractable lifelines, body harnesses, and anchorage connectors.
- 2.7 Lanyard: Flexible rope or webbing connecting a worker's body belt or body harness to an anchorage with the use of anchorage connectors. Shock absorbing lanyards are to be used in fall protection applications.
- 2.8 Retrieval Device: A mechanical system using a line or cable to lower or hoist worker. Equipment includes winches, retractable lifelines with retrieval capability or rescue positioning devices that enable a single worker to raise or lower another worker without assistance.
- 2.9 Retractable Lifeline: A mechanical device designed to arrest a freefall. The device includes a line (either cable or webbing) which extends and retracts as the worker moves and automatically locks in position when movement exceeds a pre-determined speed.

3.0 RESPONSIBLE PERSONS

3.1 DEPARTMENT HEAD

3.1.1 Department Heads shall:

- A. Ensure that the Fall Protection Program is implemented within their department. The Department Head has the authority to delegate any or all portions of the Fall Protection program, but the Department Head is ultimately responsible for compliance with this program.

3.2 MANAGERS, SUPERINTENDENTS, AND SUPERVISORS

3.2.1 Managers, Superintendents, and Supervisors shall:

- A. Ensure that employees are trained per this policy.
- B. Ensure that a worksite assessment for fall hazards is completed following adoption of this policy.
- C. Ensure that the selected fall protection systems and procedures are installed, prepared, and implemented for each work site/equipment.
- D. Ensure that equipment is readily available for employees to be able to safely work from heights.
- E. Ensure that supervisors and employees have access to copies of the fall protection policy.
- F. Inform the City Safety Officer immediately of operations where the use of conventional fall protection systems is impractical or creates a greater hazard.

- G. Assess on regularly scheduled safety inspections the appropriate use of fall protection procedures and safety systems.

3.3 CITY SAFETY OFFICER

3.3.1 City Safety Officer shall:

- A. Update and maintain the Fall Protection Program.
- B. Provide assistance in training employees for fall protection use.
- C. Assist managers, superintendents, and supervisors in proper classification of fall hazards and protection from those hazards.
- D. Provide guidance, advice, and assistance to management to achieve compliance with this policy.

3.4 EMPLOYEES

3.4.1 Employees shall:

- A. Actively participate in the City's fall protection general and site-specific fall protection system training.
- B. Understand the fall protection policy and follow the procedures as trained.
- C. Inspect and maintain all fall safety systems prior to work assignments requiring fall protection.
- D. Assist in the development of site-specific procedures and fall protection safety systems.
- E. Ensure that all fall protection safety systems are used in accordance with the manufacturer's recommendations.

4.0 WORKSITE ASSESSMENT AND FALL PROTECTION SYSTEM SELECTION

4.1 WORKSITE ASSESSMENT

This Fall Protection policy is intended to anticipate the need to work at heights and to plan work activities accordingly. Careful planning and preparation establish the groundwork for an accident-free worksite. Providing fall protection requires an assessment of each fall hazard at a given worksite.

Some of the key elements for the identification of fall hazards are:

1. Inspect the area to determine what hazards exist or may arise during the work.
2. Identify the hazards and select appropriate measures and equipment.
3. Give specific and appropriate instructions to workers to prevent exposure to unsafe conditions.
4. Ensure employees follow procedures given and understand training provided.

The following is a list of common areas that may have fall exposures:

- Aerial lifts or man lifts;
- Ceiling work (i.e., changing light bulbs);
- Roof work, especially near skylights or roofs with a pitch equal to or less than four (4) to twelve (12);
- Ladder work;

- Work on top of inside and outside structures (i.e., radio tower);
- Working on top of equipment greater than six (6) feet in height;
- Exposure to falls in confined spaces or trenches; and
- Scaffold use.

This is not an all inclusive list.

Each department, bureau, or other identifiable work area within the location must complete the attached *Fall Protection Hazard Assessment* form. To most accurately complete the document, managers should interview both supervisors and employees within each of the areas to gather their input as to the exposures.

The *Fall Protection Hazard Assessment* form should be completed with as much information as possible:

- Specifically identify the department/job using specific job classifications where possible.
- When identifying the task, identify the frequency of the task as well.
- The estimated work height can play an important role in your determination of feasible fall protection solutions.
- Control measures should be discussed with the employees conducting the work and with the area supervisor; however, the final decision should be made by the bureau manager after evaluating the exposure and the options.

It should be recognized that during the hazard assessment, the opportunity to review options to reduce or eliminate fall hazards should be conducted. Options for addressing fall hazards fall into three categories:

- Engineering Controls – include elimination of hazards (e.g., installing guardrails, enclosing an opening);
- Administrative Controls – training and written job procedures; and
- Personal Protective Equipment – fall protection equipment.

The preferred option is always to eliminate the hazard if feasible and this should be considered during the review process.

4.2 FALL PROTECTION SYSTEM APPLICATION

The selected fall protection systems are to be considered in the order presented in this policy. The following are examples of typical fall exposures within the City and is not meant to be an all inclusive list of fall exposures:

Fall Hazards	Fall Protection Systems	City Locations
<i>Equipment</i> – Working in Aerials Lifts, Utility Buckets, Elevated Platforms, or Man Lifts	Fall arrest system	Various work sites throughout the City
<i>Excavations</i> – Worksites that have excavation edges where employees are exposed to falling six (6) feet or more	Guardrail systems, fences, barricades, covers, personal fall restraint or arrest systems, or safety nets	Various temporary excavation sites throughout the City

Fall Hazards	Fall Protection Systems	City Locations
<i>Hoists with Extension</i> – When guardrails, chains or gates are removed to facilitate hoisting operations, and an employee must lean through the access opening or out over the edge to receive or guide materials	Personal fall restraint or arrest systems, or safety nets	Various sites throughout the City
<i>Low-Slope Roofs</i> – Employees performing activities on low slope roofs four in twelve or less pitch with unprotected sides and edges six (6) feet or more above lower levels	Guardrail systems, fences, barricades, covers, personal fall restraint or arrest systems, or safety nets	Various sites throughout the City
<i>Scaffolds</i> – Employees performing activities on scaffolds above six (6) feet from grade	Personal fall restraint or arrest systems	Various sites throughout the City
<i>Pits, Shafts, and Vaults</i> – Six feet or more in depth will be guarded to prevent employees from falling	Guardrail systems, fences, barricades, covers, personal fall restraint or arrest systems, or safety nets	City pools and various temporary sites throughout the City
<i>Skylights or Holes in Roofs</i> – Employees working on roofs exposed to these hazards	Guardrails on all open sides, covers or skylight screens. Covers and screens must support the greater of 400 pounds or twice the weight of the employees, equipment, & materials that may be imposed on any one square foot area of the cover at any time.	Various sites throughout the City

5.0 REQUIRED EQUIPMENT

5.1 APPROVED EQUIPMENT

Fall protection and prevention equipment shall be NIOSH approved and used in accordance with the manufacturer's instructions. Connectors and slings intended for cranes shall not be used as fall protection equipment.

5.2 BODY HARNESSSES

A body harness shall be worn whenever there is a risk of falling. Harnesses shall be securely buckled and worn tightly enough to prevent slippage. Lifelines and lanyards shall be attached to the harness upper back D-ring, or to the two shoulder D-rings through a spreader bar adapter.

5.3 LIFELINES, LANYARDS, AND RETRIEVAL DEVICES

Lifelines, lanyards, and retrieval devices are approved for the following uses:

- Lanyards are used for attachment to body harnesses in fall prevention applications.
- A shock absorbing lanyard, retractable lifeline, or retractable lifeline with retrieval capability must be used with a body harness for fall protection applications.

6.0 EQUIPMENT USAGE, CARE, AND INSPECTION

6.1 ANCHORAGES

Fall protection anchorages shall not be lower than the employee's waist. Personal fall arrest systems shall be rigged so the longest possible free fall distance is not more than four (4) feet. When possible, lanyards and lifelines shall be anchored directly above the employee's head. If the employee must move horizontally, the anchorage point should be rigged to slide along with the employee in order to minimize swinging in the event of a fall.

Lanyards, lifelines, and retrieval devices shall be affixed to anchorages through the use of anchorage connectors. Approved anchorage connectors include carabiners, tie-off adapters, shackles, specialized eyebolts, trolley connectors, and brackets.

Anchorage connectors shall be attached to anchorages such as I-beams, channel iron, or sturdy pipelines capable of supporting 5,000 pounds per person. Tripods and davit arms provide approved anchorages when used in accordance with manufacturer's instructions.

Lifelines, lanyards, and anchorage connectors shall not be attached to suspended piping, electrical conduit or other structures that could break from the force of fall arrest. If an anchorage is in question, employees should consult with their supervisor before installing anchorage connectors.

6.2 LIFELINES AND LANYARDS

All lifelines and lanyards shall be equipped with locking snap hooks. The use of non-locking snap hooks is prohibited for any fall protection or fall prevention application. Snap hooks shall not be attached to other snap hooks, and knots shall not be tied in any fall protection equipment. Non-conducting lifelines or lanyards must be used near energized circuits or inside energized vaults.

Shock absorbing lanyards will stretch up to 3 ½ feet at fall arrest. Therefore, the fully extended length of a shock absorbing lanyard must be shorter than the

potential fall. Lifelines and lanyards subject to excessive fraying shall have a wire rope center.

6.3 EQUIPMENT DAMAGE

Any fall protection equipment that stops a fall must immediately be removed from service. Retractable lifelines and retrieval devices that have stopped a fall must be inspected by a facility approved by the manufacturer before being returned to service.

6.4 INSPECTIONS

All fall prevention and fall protection equipment must be inspected before each use by the employee according to the manufacturer's recommendations. Any equipment found to be damaged shall be immediately removed from service and given to the employee's supervisor. Damage to fall protection and fall prevention equipment may include:

- Cuts or tears;
- Worn or enlarged eyeholes;
- Broken stitches or ragged strands;
- Loose or rotted threads;
- Knots in safety rope or lanyard; and/or
- Chemical, paint, or solvent contamination.

Damage to hardware may include:

- Breaks;
- Cuts;
- Fractures;
- Loose anchorages; and/or
- Signs of wear or deterioration.

Inspection of mechanical fall protection devices includes:

- Wire rope in good condition/not frayed;
- Retraction mechanism working smoothly;
- Check operation of brake by pulling sharply on wire rope;
- All bolts tight; and/or
- Free operation of crank handle.

Fall protection equipment shall be neatly stored in a clean, dry location to prevent premature aging.

7.0 SPECIAL WORK CONDITIONS

When work is of limited exposure and hazards involved with installing fall protection exceed hazards involved in work, fall protection measures may be temporarily suspended under the supervision of the competent person.

If work involves exposure to heights for more than three (3) full work shifts, employees must use mobile platforms, scaffolding, or some other means of accessing the work site instead of using fall protection.

8.0 RESCUE PLAN

OSHA states that “the employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves.” Prompt rescue is needed because the body cannot tolerate hanging from a harness for long periods of time. Departments that have chosen fall arrest or restraint systems shall have rescue plans in place. If Departments wish to use the Fire Department for rescue purposes, it is highly recommended that a joint training session occur.

Before a fall occurs, departments should plan ahead by:

- Develop a post-fall recovery plan. Post fire/rescue phone numbers.
- Inventory useful tools (ladders, scaffolds, man lifts, hoists, rescue winches, etc) and their location before a fall occurs.
- Avoid further injuries and falls by providing fall protection for both rescuer and subject.

If a post-fall recovery is needed, the following emergency measures may be activated to protect both the fall victim and intended rescuers:

- Communicate with the subject, establish the level of consciousness, and evaluate injuries. Comfort and monitor the fall victim continually.
- Call emergency units, ambulance, fire/rescue.
- Appoint a qualified person to take charge of the operations’ overall safety

9.0 TRAINING AND ENFORCEMENT

9.1 TRAINING

The training program shall consist of classroom education and operational instruction. Classroom education must consist of:

- Recognizing the nature of fall hazards in the work area;
- The use and operation of guardrail, personal fall protection, and safety net systems;
- The correct procedures for equipment and materials handling and storage and the erection of overhead protection;
- The recognition and avoidance of unsafe conditions; and
- The City’s Fall Protection policy.

Operational instruction must consist of:

- Pre-operational inspection;
- Operational review of the use of lanyards, harnesses, and accessing areas with fall hazards; and
- The correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems.

9.2 ENFORCEMENT

Constant awareness of and respect for fall protection procedures and compliance with all safety rules are considered conditions of employment. Supervisors at all levels are responsible for the enforcement of these procedures within their

respective areas of authority. Failure to comply with this policy may be grounds for disciplinary action, according to the City's Civil Service Rules.

FALL PROTECTION HAZARD ASSESSMENT

[illegible]

**FALL PROTECTION HAZARD ASSESSMENT
SAMPLE ONLY**

DEPARTMENT/JOB	TASK	ESTIMATED WORK HEIGHT	CONTROL MEASURES USED	RECOMMENDED CONTROL MEASURES
Maintenance	Change Light Bulbs	Ceiling Hgt. (est. 12 ft)	Man Lift	Body harness and lanyard
Traffic & Transportation	Signal Maintenance	Est. 15 feet	Aerial Lift	Body harness and lanyard when working in bucket
Gas Construction	Pipeline Maintenance	Holes deeper than 6 feet	Fencing and guardrails	Install fencing and guardrails around open trench
Maintenance	Painting Structures	Higher than 6 feet	Scaffolding	Body harness and lanyard while working from scaffolding